

**FROM CLASSROOM TO WORKPLACE:
HOW EFFECTIVE IS INTERPROFESSIONAL EDUCATION?**

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

The Faculty of Graduate Studies

(Adult Education)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

July 2009

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ABSTRACT

The College of Health Disciplines at the University of British Columbia has recognized the value of interprofessional collaboration and has implemented a number of courses that utilize an interprofessional education approach to learning. These courses provide learners from a variety of professional backgrounds with opportunities to learn together, collaboratively, about topics of mutual relevance. The course investigated through this study focused on HIV/AIDS prevention and care and involved students from pharmacy, nutrition, medicine, nursing and social work.

The goal of this study was to understand the effectiveness of interprofessional education by exploring the experiences of students as they transitioned from the classroom to the workplace. Utilizing semi-structured interviews with five former students who had taken the interprofessional education course on HIV/AIDS, this study specifically investigated: (1) what learning was memorable or significant during the interprofessional course; (2) what pieces of knowledge related to interprofessional care were learners able to transfer to their current professional practice; and (3) what enabled or posed a barrier to the transfer of interprofessional knowledge in their current professional practice.

The interviews provided positive feedback regarding the course and the learning objectives related to interprofessional education. The course itself was well received and participants viewed interprofessional care as a positive intervention in patient care. Despite this, participants reported significant challenges in transferring interprofessional knowledge and skills to the practice setting. This was largely mediated by existing organizational and professional cultures, which participants felt were imposed by the institution and/or their colleagues.

The interprofessional education course structure appears to have offered learners a broad range of effective teaching and learning strategies that provided them with insight into other professions. In addition, the benefits of interprofessional care remained with learners as they entered into professional practice. One shortfall of the program was, however, a lack of insight into how interprofessional care can be implemented by learners

in their future places of practice. In the absence of this, learners were unable to serve as the agents of change to transform institutional cultures in favour of an interprofessional, collaborative setting.

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ACKNOWLEDGEMENTS

I would like to thank my committee members, Drs. Dan Pratt, Lesley Bainbridge and John P. Egan for their advice, support and encouragement throughout the course of this research project and for seeing this thesis through to completion.

My sincerest of thanks to the staff of the College of Health Disciplines at the University of British Columbia, and to Dr. John Gilbert for his encouragement to pursue studies in the area of interprofessional education.

Special thanks are owed to my family and my girlfriend, Rachael, who have supported and encouraged me throughout my education.

DEDICATION

This thesis is dedicated to the men and women of law enforcement.

CO-AUTHORSHIP STATEMENT

The research manuscript contained in this thesis has been co-authored by myself and the members of my committee, Drs. Dan Pratt, Lesley Bainbridge and John P. Egan.

My contribution to the project has included significant input into the initial conception of the study, as well as to the research methodology involved. With guidance from my committee as to appropriate technique and style, I conducted, transcribed and analyzed all of the interviews conducted for this study.

The preparation of the manuscript has been a collaborative effort by my committee members and myself. I produced the initial draft of the manuscript and received considerable feedback from my committee, resulting in the final product contained herein.

CHAPTER ONE

Introduction

The University of British Columbia has recognized that as the health and social care workforce has continued to expand and diversify, there is a need to ensure that learners from different professional background receive adequate preparation for working in multiprofessional practice environments (Szasz, 1969). While considerable research has been conducted to evaluate different aspects of educational interventions that promote collaboration among students from different professional backgrounds, there is a need to understand the aspects of these interventions that are effective in promoting interprofessional learning and the effects that such interventions have on future practice. This thesis explores the aspects of interprofessional education that were particularly memorable for a group of students who completed their education at the University of British Columbia and provides some initial insight into how this has affected their professional practice, upon graduation and entry into the workplace.

Curricula within schools of health and social services have begun to reflect the need to focus not only on the integration of scientific insight necessary for competent decision-making, but also on the conditions that may predicate the effective delivery of patient care (Clark, 2006; Finch, 2000). A greater emphasis on fostering effective problem-solving skills has been the foundational argument for the problem-based learning (PBL) movement (Finucane & Prideaux, 1998) and the integration of a more holistic view of patients and families has set a precedent for the emergence of the patient-centred care movement (Little et al., 2001). As healthcare systems strive to move towards a system that focuses on building and strengthening relationships and networks between providers, it would appear a sensible approach to focus on the educational systems that train and educate future generations of healthcare professionals.

With the move towards interprofessional collaboration (IPC), interprofessional education (IPE) has emerged as a means of providing curricular-based opportunities for students from different professional backgrounds to learn together and is being implemented into health and social services curricula throughout the world (Reeves, Goldman, & Oandasan, 2007; Reeves et al., 2008). The rationale for such integration has

been that such a form of education provides a potential means of fostering the habits of mind and practice with the intention of encouraging interprofessional collaboration in the practice setting. In doing so, these programs seek to provide educational opportunities that bring students out of their respective professional ‘silos’ and into a rich educational environment that adequately represents the diversity in specialization and expertise of different health and social care professions (Hall, 2005). The educational goal of these initiatives appears to be to provide students with alternative learning opportunities from their profession-specific education, and to provide opportunities for learners to experience and to value the provision of health and social care from perspectives other than their own (Oandasan & Reeves, 2005a).

As health professional education programs continue to implement IPE into curricula, there exists a need to understand the effectiveness of these interventions on how health professionals practice upon their entry into the workforce. Gaining insight into this effectiveness requires a clear understanding of what comprehensive models of interprofessional collaboration consist of and the rationale for instituting this style of patient care.

Rationale for Interprofessional Education

The personal and economic burden of prevention and management of chronic illnesses represents a staggering challenge that is expected to increase in the foreseeable future for health care providers and health care (Ohinmaa et al., 2006). Beyond cost containment surrounding chronic illness is the reality that patients must attempt to navigate the healthcare system, relying upon a variety of healthcare professionals and providers who may or may not have an understanding of the role or scope of practice of other providers involved in a patient’s care (Anderson & Knickman, 2001).

The implementation of a sustainable, effective and reliable model of care for the treatment and management of chronic illness requires a coordinated effort among care providers and policymakers to implement a broad, collaborative and multi-faceted system of healthcare delivery (Martin, 2007). The application of such a model of care has been problematic for reasons of economics, politics and organizational design within healthcare institutions and among healthcare providers and policymakers (Johnson, Wistow, Schulz, & Hardy, 2003).

The health and social care needs of those living with chronic illness are complex and comprehensive; this is particularly evident with HIV, and it has been argued that the therapeutic regimen utilized in the management of HIV/AIDS supersedes that of most chronic illnesses (Paterson et al., 2000). Given the dynamic complexities of chronic illness, the need for an interprofessional approach to healthcare delivery in the community is evident (Holman, 2004). Though conceptually viable, this model of care requires a significant paradigmatic shift in the manner through which healthcare delivery systems are designed and the manner in which practitioners interact with and within these systems.

The rationale for interprofessional approaches to health and social care delivery has been demonstrated in a variety of publications and range from increased productivity to notions of enhanced patient safety through comprehensive, coordinated, patient-centered care (D'amour & Oandasan, 2005; D'amour, Ferrada-Videla, Rodriguez, & Beaulieu, 2005; Walid El Ansari, Ceri Phillips, Marilyn Hammick, 2001). Fundamentally, the need for interprofessional care can be summarized through the recognition that it is unreasonable and irresponsible to place sole responsibility for a patient's care on any one provider or any one profession of care providers when other expertise is available (Garland, 2005).

By fostering the habits of mind and practice through IPE, proponents of IPE argue that healthcare systems will see the emergence of an interprofessional network of "cooperating independent equals who contribute to a common vision of health," (Herbert, 2005, p. 1). Conceptually, IPE aims to achieve this by focusing on the melioration of the processes of care through the enhancement of professional relationships and promoting mutual respect and understanding among members of different health and social care professions early on in their professional careers as a profession-specific worldview begins to develop (Clark, 2006). Ultimately, it appears that the desired outcome from such initiatives is the intuitive collaboration of different professions in the interest of providing the highest quality of patient care possible.

Central to many of these courses is the application of a definition of interprofessional education from the Centre for the Advancement of Interprofessional Education (CAIPE) that states: "Interprofessional Education occurs when two or more

professions learn with, from and about each other to improve collaboration and the quality of care” (Centre for the Advancement of Interprofessional Education, 2009). While this commonly cited definition provides some insight into some of the objectives of a program, it lacks sufficient depth to provide a meaningful framework for the implementation of IPE initiatives or the assessment of any outcomes of learning. This lack of depth in the CAIPE definition, coupled with the development of comprehensive IPE courses utilizing an array of teaching strategies provides a fertile ground for researchers in the field of medical education.

The implementation of such pedagogy requires a drastic change in the manner by which health and social services students are educated and represents a marked departure from traditional styles of education. Conventional means of health sciences education have focused on uni-professional strategies of learning, also referred to as “learning in silos,” whereby students learn profession-specific competencies with little to no consideration of the role of other professions or how they may fit into an interprofessional team in the clinical environment (Clark, 2006; Hall, 2005; Herbert, 2005). This uni-professional model of education has been the standard pedagogy in the education of health professionals (Oandasan & Reeves, 2005a; Oandasan & Reeves, 2005b) and arose predominantly from the need to integrate scientific achievement into standard medical practices (Bloom, 1988).

Although IPE may be a conceptually viable means of challenging practice and education trends (Finch, 2000), IPE courses differ in terms of length, student composition and learning and teaching methods (Freeth, Hammick, Koppel, & Reeves, 2002). This lack of consistency in structure and delivery may be attributable to a lack of evidence surrounding the outcomes of these curricular reforms, but may also be attributable to either a lack of, or a poor understanding of, a central learning theory that applies to interprofessional education (Clark, 2006).

The role of interprofessional education in fostering a collaborative mentality is not to homogenize the cultural divide that exists among professions, but rather, to provide opportunities for students to gain an appreciation for other members of the healthcare team and to understand when and how to access them through an appreciation of the differing areas of expertise that exist (Counsell, Kennedy, Szwabo, Wadsworth, &

Wohlgemuth, 1999). By recognizing the differences between health professions and their respective contributions to patient/client care, interprofessional education can seek to transform students' perspectives on the provision of health and social care to become more inclusive and cognizant of a multiprofessional model of delivery. While this is certainly an ideal product of IPE, educators require a theoretical framework to guide their teaching. Given that educators are seeking to change students' perspectives and attitudes towards both other health professionals and the health care environment, as a whole, I propose that transformative learning theory may prove a vital tool in shaping teaching and learning strategies in IPE.

Transformative Learning

Given that interprofessional education is emerging as one strategy for transforming students' views of the health and social care world (Clark, 2009), it is necessary to recognize sets of assumptions (such as those which may occur through professional acculturation) and the knowledge base that they bring into this environment. Educators must recognize that students bring with them a range of prior knowledge, skills, beliefs and concepts that play a role in shaping how they understand and interpret the world within which they practice (Bransford, Brown, & Cocking, 2006).

The construction of a student's set of assumptions, values and beliefs constitutes what Mezirow (1990, p. 2) refers to as meaning perspectives. These meaning perspectives consist of a person's higher-order methods for classifying, organizing and interpreting information, predicated on a set of pre-existing theories, beliefs and subsequently, role-relationships. These perspectives are generally acquired through cultural assimilation, though others may be intentionally learned and others are stereotypes that have been unintentionally learned. In the realm of interprofessional education, educators must recognize the role that meaning perspectives play in shaping not only how educational interventions should be implemented, but also how students will respond and adapt to them.

The recognition of interprofessional education as being a transformative process has emerged previously in the academic literature (Clark, 2006; Clark, 2009), as authors discuss the need for cultural change (Herbert, 2005) and the changing of attitudes towards both interprofessional working and other professions (Hind et al., 2003). Though not

always explicitly described as transformative learning, it appears that a significant number of authors and educators are adopting approaches that seek to transform students' ways of viewing, interpreting and responding to the practice world. Essentially, educators are seeking to transform students' meaning perspectives.

Barr (1996) identified 6 learning methods that may serve to provide concrete examples of experiential learning opportunities for interprofessional collaboration. These 6 learning methods (received learning, exchange-based learning, observation-based learning, action-based learning, simulation-based learning and practice-based learning) provide some guidance in directing programming, but in the absence of a learning theory to guide their application it is difficult to assume that they will, in of themselves, produce practitioners with the necessary habits of mind and practice envisioned by proponents of interprofessional education and practice.

The use of critical reflection by learners has been recognized as an integral component of transformative learning theory (Brookfield, 1990) and has begun to emerge as a key component in the development of a theoretical basis for interprofessional education (Clark, 2009). As students emerge from their professional silos, they are faced with notions of interprofessional care and the alternative and sometimes conflicting meaning perspectives of other learners and with examples of different ways of providing patient care. The use of teaching tools can provide students with concrete experiences, but they are only tools and should be used as a means of expanding the delivery of educational programming already guided by a theory of learning.

Reflective action, or action predicated on the critical reflection and assessment of assumptions, is the logical next step in the transformative learning process. This is the practice of implementing a form of reflection to reassess how best to proceed. This can be a brief assessment in the decision-making process, but is integral to enacting reflective practice (Mezirow, 1990).

Previous researchers have explored professional cultures as a barrier to collaboration (Hall, 2005) and found that through a restricted worldview, such as the professional "silo", individuals from different professions can analyze the same clinical situation and arrive at completely different answers. This lack of consensus through analysis can lead to conflict and difficulties in formulating collective, collaborative team

decisions and actions. The logical approach would be to provide students with an education that constructively trains students to either analyze problems in a similar manner or to provide students with the opportunity to gain a deeper insight into not only the practice characteristics of other professions, but the rationale for them.

The organizational structures and processes of groups such as language, technologies, values and the visible behaviours are often the most visible identifiers of a group to outsiders (Schein, 1992). These cultural artifacts form the initial cultural layer of an identifiable group, as identified in Schein's (1992) framework. Although particularly visible, an outsider to the group may not be able to gain an appreciable understanding of the meaning or significance attached to the artifacts by the group, itself. Schein (1992) argues that drawing inferences as an outside observer as to the meaning of these artifacts may be a dangerous task, as these inferences are often projections of the observer's own feelings and reactions. This projection of the observer's own feelings and reactions onto an interpretation of the cultural artifacts is consistent with Mezirow's theory of developing meaning perspectives (Mezirow, 1990), which form the subsequent basis for analysis and interpretation of phenomena.

If interprofessional education is truly seeking to shape and transform behaviours, it must challenge what is comfortable for learners and force students to reflect upon their own meaning perspectives and compare their initial assumptions with the alternatives presented to them. Furthermore, in challenging their own meaning perspectives, students must seek a deeper understanding or meaning to the inferences made of others outside their own professional group. In formulating a deeper cultural understanding of other professions, learners are forced to challenge the assumptions made of outside groups and provide a level of meaning to the visible products of other groups.

The basis of arguments for the integration of IPE involve the transformation of students' meaning perspectives, following some form of professional acculturation, largely in the context of educational silos described previously. This model of interprofessional education seeks to correct or reshape distortions in meaning perspectives that do not align with a desired practice setting that incorporates interprofessional collaboration as a necessary component of practice. This study

examined an interprofessional course that sought to educate learners about the provision of interprofessional care in the management of a chronic illness – HIV/AIDS.

Course Description

The challenges of providing coordinated interprofessional HIV/AIDS care provides an opportune situation for integrating interprofessional learning into the curriculum. In recognizing this challenge, the College of Health Disciplines at the University of British Columbia (UBC) has offered a one-month course in HIV/AIDS that utilizes an IPE teaching strategy since 1997.

The course comprises 5 professional disciplines – social work, pharmacy, medicine, nursing and nutrition – and addresses aspects of the HIV/AIDS pandemic ranging from clinical pharmacology to the social determinants of health and epidemiology. The course design places a particular emphasis on encouraging the interaction between various professions and emphasizes the need to centre one's professional self within the context of an interprofessional team. The faculty have successfully implemented a variety of interactive learning methods that are consistent with Barr's (1996) interactive learning methods for interprofessional education – received learning (lectures and written materials), exchange-based learning, observation-based learning, action-based learning, simulation-based learning and practice-based learning.

An additional benefit of the course relates to the enrolment practices and social structures of the course. The course is intended for senior level health and human services students, thus emphasizing the need for an understanding of one's professional role prior to understanding the roles of others. Second, the nature of the course demands an intensive one-month commitment to learning, where students from all of the professions represented are socialized among each other. The effects of socialization have been documented by a number of other sources, in relation to both uni-professional socialization (Reeves et al., 2007) and interprofessional socialization (Hoffman, Rosenfield, Gilbert, & Oandasan, 2008) and it would appear from the literature that students are prepared to embrace the opportunity for interprofessional socialization as a positive component of their learning. Additionally, previous work conducted with this particular interprofessional course has demonstrated a positive response from students

who indicated a value in the learning experiences and an overall enjoyment of the course (O'Neill & Wyness, 2005).

Study Methods

This study examined the impact of this interprofessional course on future practice. Using semi-structured interviews, this research project investigated: (1) What learning was memorable or significant during the course of IHHS 402; and (2) What (if any) impact did that learning have on their professional practice; and (3) What factors facilitated or interrupted the transfer of learning from course to practice? The study examined those habits of mind and practice that are related to interprofessional practice and that were learned and retained by students who participated in the course during their professional education program, which of these have transferred from the course to their current practice setting and how learners feel this has been exemplified in practice. Additionally, factors that may inhibit students' abilities to fully apply interprofessional practice were explored as a means of further exploring the potential role of organizational factors that may hinder interprofessional care. As this study sought to explore the experiences of learners as they transitioned from the classroom to the workplace, a qualitative research approach was used.

Qualitative Research

Research paradigms in IPE have largely focused on quantitative measures of participant outcomes (Carpenter & Dickinson, 2008, p. 91). These quantitative methods often involve validated scales of measurement that seek to quantify learners' experiences using survey methods (e.g. Pollard, Miers, & Gilchrist, 2004; Pollard, Miers, Gilchrist, & Sayers, 2004). Although quantitative methods provide researchers with an easily accessible means of aggregating large amounts of data, qualitative methods are often more appropriate for understanding the relationships that exist between groups or individuals and for understanding the particular experiences and situations of individuals in the study (Yardley, 2000).

A qualitative research approach was selected for this study as a means of investigating the social phenomena experienced by participants throughout the continuum of interprofessional education to practice. Qualitative research in this context is

particularly valuable as a means of providing a descriptive account of lived experiences, as well as for the ability of the research design to shed light on participants' values and norms (Malterud, 2001).

A systematic strategy of semi-structured interviews was used as a means of data collection, including the use of a list of a pre-determined research and interview questions that guided the conversation between the researcher and the research participants. This means of data collection provided the researcher with the ability to become an active participant in the development of the data and knowledge, and enabled the researcher to seek further clarification on issues of importance that arose through conversation (Malterud, 2001). The recognition of issues of importance and the subsequent development of new questions related to the research as a means of clarifying participants' responses was of value in the subsequent analysis of the interview transcripts.

The College of Health Disciplines maintains a list of alumni of all of the interprofessional courses it offers and maintains an additional list of students who have completed courses and have given their permission to be contacted for the purposes of IPE-related research. Following approval of the UBC Behavioural Research Ethics Board (BREB), students who had: (1) completed the Interprofessional Health and Human Services (IHHS) 402 – HIV/AIDS Prevention and Care course; (2) indicated a willingness to be contacted for the purposes of IPE-related research; and (3) completed the course between three and six years prior to the commencement of the study, were contacted regarding the study. Eligible students received an initial letter of contact from the Senior Program Assistant at the College of Health Disciplines, sent to the most recent e-mail address available. This letter (Appendix B) contained information regarding the study as well as the contact information of the researcher conducting the interviews. Participants were instructed to contact the researcher if they were interested in participating, at which time a letter of recruitment, as well as the consent form, were provided to participants for review and a suitable interview time and location was arranged.

All interviews were audio-recorded using two digital electronic recorders to ensure clarity in the recordings and reliability of the equipment being used. The audio

recordings were transcribed by the interviewer and the completed transcripts were returned to the respective interview participants to ensure accuracy in transcription and to ensure that the transcripts accurately reflected what the interviewee intended to say.

Analysis

Strategies for qualitative data analysis form the framework for extracting themes and concepts from the data and provides a means for making interpretations of the broader meaning of the data (Creswell, 2003). Several reliable procedures for analyzing qualitative data exist (Thomas, 2006). Out of a desire to allow themes and concepts to be derived from the interview transcripts, analysis was performed utilizing a general inductive approach.

The interview transcripts were read four times. First to orient the researcher to the data contained in the transcripts. The second reading of the transcripts was for the purpose of developing a list of codes that pertained to the three research questions. A third reading developed subsequent codes that identified themes other than those that directly answered one of the research questions. A fourth reading ensured that all relevant themes were revealed in the data.

The purpose of the data analysis and of this research project, in general, was to further understand the experiences of a select group of students who participated in an interprofessional education course. The analysis was intended to reveal elements of the course that provided learners with lasting insight into interprofessional practice, why these course features were significant, as well as those elements of the course that require improvement. Furthermore, the analysis intended to focus not only on the outcomes of the course as prescribed by the research questions, but also any other unplanned outcomes as students traversed the interprofessional continuum from education to practice.

Summary

This introductory chapter highlights the increasing complexity of the health and social care practice environment and the challenges faced by practicing professionals and patients, alike, in navigating these systems of care. It has also noted the exceptional burden imposed on patients undergoing treatment for HIV/AIDS, a disease that is now

largely a manageable chronic illness and has posited that effective and coordinated interprofessional care provides a viable means of responding to the needs of these patients. This interprofessional model of care requires professionals to gain appreciable insight into the roles and responsibilities of their colleagues from different professional backgrounds and also requires an understanding of the complexities of interprofessional teamwork. This chapter also introduced an interprofessional course with a mandate of providing learners with an interprofessional knowledge base of HIV/AIDS prevention and care.

This thesis undertakes an examination of the experiences of health and social care professionals in integrating interprofessional knowledge into their professional practice, with a particular emphasis on the institutional and professional cultures that enable and inhibit this integration. It employs a broad framework of understanding different cultural layers (Schein, 1992) and provides some suggested areas of improvement for interprofessional curricula to enable learners to serve as agents of change upon entry into the practice setting.

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CHAPTER TWO – From Classroom to Workplace: How Effective is Interprofessional Education?¹

Introduction

Over the last century, health and human service professions have expanded far beyond those of medicine and nursing. In the province of British Columbia alone, there are 24 professions under the Health Professions Act (The Province of British Columbia, 2007). As the knowledge base of health care has grown, new professions with more specialized foci have emerged, leading to a highly diverse workforce. This increasing diversity, along with well-entrenched professional cultures in the older (and more established) professions, presents challenges as more chronically ill patients with complex issues demand a workforce that knows how to collaborate.

Yet, traditional educational models for training and educating health and social care professionals often operate in isolation from one another – an effect often referred to as silo learning (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007). Traditional models of health and social care professional education fail to adequately prepare graduates to work in healthcare environments where multiple professions are required to work collaboratively in the interest of enhancing patient care (Reeves, Freeth, McCrorie, & Perry, 2002). A new model of education, therefore, is necessary to enable students in all professions to understand the roles of others, and to understand where they fit in the delivery of patient care. In recent years, interprofessional education (IPE) has emerged as an alternative model for training students and practitioners to collaborate more effectively.

Proponents of IPE argue that through its implementation, healthcare systems will see the emergence of an interprofessional network of “cooperating independent equals who contribute to a common vision of health,” (Herbert, 2005, p. 1). Fundamentally, the need for interprofessional care can be summarized through the recognition that it is unreasonable and irresponsible to place sole responsibility for a patient’s care on any one

¹A version of this chapter will be submitted for publication as: Nickerson, J., Bainbridge, L., Egan, J.P., Pratt, D.D. (2009) From classroom to workplace: How effective is interprofessional education?

provider or any one profession of care providers when other expertise is available (Garland, 2005).

Interprofessional education has been conceptualized as a transformative process that requires cultural change organizationally (Herbert, 2005) and a change in attitudes towards both interprofessional working and other professions (Hind et al., 2003). Though not explicitly described as transformative learning (J. Mezirow, 2000; Taylor, 2007), a significant number of authors and educators are adopting approaches that seek to transform students' views of health care delivery to be more closely aligned with an interprofessional model of practice.

Despite the popularization of IPE as a transformational pedagogy in health and human services education, there is limited evidence about whether IPE fosters sustained change in clinical behaviours or organizational transformation (Reeves et al., 2008). There is a growing need for establishing an evidence-based foundation upon which to build IPE courses and interventions. The extensive reforms that are currently underway in many health and human services educational programs throughout the world require assessment to measure how well these reforms have achieved their intended outcomes (D'amour & Oandasan, 2005; Wilkes & Bligh, 1999; Zwarenstein, Reeves, & Perrier, 2005)

Interprofessional education, then, provides opportunities for students from different professional backgrounds to learn with, from, and about each other and is increasingly being introduced into health and social services curricula as a way of fostering interprofessional collaboration (Centre for the Advancement of Interprofessional Education, 2009). The intent of IPE is to immerse students in educational environments that represent a diversity of specializations and expertises across a range of different health and social care professions. The overall goals of IPE initiatives are to provide students with alternative learning opportunities from their profession-specific education, to provide opportunities for learners to not only learn with, from, and about other health professionals, and to value a more collaborative approach to the provision of health and social care.

Evaluations of interprofessional education have yielded limited evidence of a long-term impact on practice behaviours upon entry into the workforce. Several studies

have examined students' readiness for interprofessional learning (Hind et al., 2003) attitudes towards IPE (Hoffman & Harnish, 2007) and satisfaction with interprofessional learning (O'Neill & Wyness, 2005), though none of these studies provide substantial insight into the aspects of an IPE course that were particularly influential on future practice.

Whether as a single course, or as a combination of courses, IPE represents a complex educational phenomenon that seeks to change deeply held norms and deeply entrenched habits of practice among health and social professionals. Consequently, there is little understanding about what (if anything) transfers from classroom to practice in interprofessional education.

This exploratory study set out to examine the transfer of learning experiences of five health and social professionals from an IPE course, including its impact on their professional practices. All five participants attended an intensive summer IPE course four to six years earlier. Three research questions guided the exploration of participants' attempts to move IPE into sites of practice: (1) What learning from the interprofessional education course was memorable or significant? (2) What (if any) impact did that learning have on their professional practice? and (3) What factors facilitated or hindered the transfer of learning from the course to professional practice?

Course Features

Since 2001, the University of British Columbia (UBC) through the College of Health Disciplines (CHD) has recognized the value of interprofessional collaborative patient-centred practice and has developed a series of elective interprofessional courses for students in health and social services programs. The CHD is a unique unit within UBC that facilitates interprofessional activity among the 15 health and human service programs and acts as a resource on IPE. The CHD elective course being examined in this study, IHHS 402 – HIV/AIDS Prevention and Care, prepares students for interprofessional practice in the area of the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS). The lead author (JN) completed IHHS 402 as an enrolled student, providing an additional perspective on both the course and interprofessional education. No single discipline has all the knowledge required to support patients whose needs span physical, psycho-social and spiritual domains. Given

such complexity in HIV/AIDS, collaborative interprofessional care is particularly relevant, and provides an opportune environment for learning about interprofessional practice (O'Neill & Wyness, 2005).

The course is offered once a year as a four-week summer session elective for students in medicine, nursing, pharmacy, social work and dietetics. Academic faculty members, practitioners, members of AIDS service organizations and people living with HIV collaborate to develop and deliver the course. Students spend two days per week in the practice setting, rotating through clinical areas that emphasize interprofessional collaboration. The remainder of the course time is spent in classroom-based learning that encompasses problem-based learning (PBL), skits, lectures, films and case studies. Students are evaluated through a final case study assignment and interprofessional student group presentations.

Methods

This is an exploratory descriptive study, designed to provide an initial description of the transfer of learning in interprofessional education. A qualitative research approach was chosen to enable an in-depth examination of the experiences of learners transitioning to the practice setting (Pope, Ziebland, & Mays, 2000). Participants were interviewed using a semi-structured interview format guided by the three global research questions of the study.

All procedures and relevant materials were reviewed by the Behavioural Research Ethics Review Board (BREB) at the University of British Columbia (UBC). The study participants were selected from a database of alumni who had taken the HIV/AIDS interprofessional course and had previously indicated their willingness to be contacted for research projects related to interprofessional education. Participants who had completed the course between four and six years prior to the study were selected to allow time for learners to have transitioned to the practice setting and to have gained experience with, and insight into, the practice environment. Alumni meeting these criteria were sent letters requesting their participation in a sixty-minute semi-structured interview, conducted by the lead author.

Five former IHHS 402 students responded to the request for participation. All of them met the inclusion criteria and were offered an interview. Pseudonyms have been used in this manuscript to maintain anonymity. The following pseudonyms, correspond to the respondents:

- Ann is a Land and Food Sciences graduate working as a researcher at an academic institution.
- Betty is a pharmacist working in paediatrics at a teaching hospital.
- Calista is a social worker that works with a community-based organization.
- Deborah is a registered nurse that works in labour and delivery at a teaching hospital.
- Elise is a registered nurse that works in home care with a regional health authority.

The interviews were audio recorded and transcribed verbatim by the interviewer. The transcripts of the interviews were sent to participants as a means of providing respondent validation (Mays & Pope, 2000). All attempts were made to ensure accuracy in transcription of the audio recordings, giving consideration to the potential for transcription error or misinterpretation (Easton, McComish, & Greenberg, 2000). All participants indicated the transcripts sent to them were accurate and required no changes.

Strategies for qualitative data analysis form the framework for extracting themes and concepts from the data and provides a means for making interpretations of the broader meaning of the data (Creswell, 2003). Several reliable procedures for analyzing qualitative data exist (Thomas, 2006). Out of a desire to allow themes and concepts to be derived from the interview transcripts, analysis was performed utilizing a general inductive approach.

The interview transcripts were read four times: First, to orient the researcher to the data contained in the transcripts; second to identify possible answers to the research questions; third to identify additional codes that were relevant to the research project; and finally to codify the transcripts with the final aggregated list of codes. Analysis consisted of reading of the interview transcripts and codifying the transcripts with a code list developed through two processes: (1) Codes were created so as to identify answers to the

three research questions and (2) Following a detailed reading of the interview transcripts, important themes and concepts that emerged formed a second list of codes.

The purpose of the data analysis and of this research project was to further understand the participants' experience and transfer of learning related to an interprofessional education course. The analysis was intended to reveal elements of the course that provided learners with lasting insight into interprofessional practice, why these course features were significant, as well as those elements of the course that require improvement. Furthermore, the analysis intended to focus not only on the outcomes of the course as prescribed by the research questions, but also any other unplanned, yet relevant, outcomes as students traversed the interprofessional continuum from education to practice.

The use of theory in the interpretation of the study results involved the use of Schein's (1992) work on culture, and the recognition of three distinct levels of culture: artifacts – the visible products of a group such as the language, technologies used, emotional displays and other observable characteristics of a group; espoused values – the strategies or philosophies that underlie the group's decisions and may predict what people say, but may not necessarily be in line with what they do; and basic assumptions – the unconscious beliefs, perceptions, thoughts and feelings that are the ultimate source of values and action. This theoretical framework was used to further interpret the results of the study, subsequent to the analysis, but did not guide the data analysis.

Results

The three research questions that guided this study are used as the organizing framework for reporting the study findings. First, the learners' reflections on aspects of memorable or significant interprofessional learning will be described. Second, learners' reflections on how interprofessional education impacted on their professional practice will be explored, followed by the factors that facilitated or interrupted the application of interprofessional knowledge in their work environments.

Memorable or Significant Learning Experiences in IPE

A major goal of this study was to start to understand the elements of interprofessional education that foster memorable or significant learning events for

students. Specifically, participants were asked to reflect upon the memorable aspects of the course that helped shape or transform their understanding of interprofessional care and the role that interacting with students and faculty from different professions had in the transformation of understanding.

All of the respondents identified engaging with a wide array of faculty and guest presenters as being an important means of learning about the roles and perspectives of different professions:

...I think it's the core of the course, because [the course organizers] not only had health professionals, but they had clients - people who access the system. And now, actually, that was very powerful, too. Just to learn from them, their experiences and what helped them... In your head, you can just relate everything and how it all works together - that you cannot work isolated. (Calista, Social Work)

Learning from the experiences of others was valuable not only from a professional perspective, but also from the perspective of patients. As this course deals with a wide spectrum of individuals ranging from the street-entrenched to prominent members of society, many of the participants felt that learning from patients and clients also provided additional insight into the perspectives and contexts of patients with complex medical needs:

...It just gave me, and I think everybody, a little bird's eye view into the life of a woman who has HIV and is in prison. Who, you know, you don't even think of that when you're working in the hospital or wherever you're working. You know, those clients never surface. So, I think that was remarkable. (Elise, Nursing)

Outside of the classroom, students were able to further explore interprofessional care in the practice setting through clinical rotations. All of the participants felt that many of these experiences were useful for exemplifying an idealised model of care:

...there was a meeting with...several people from different...disciplines and they were discussing the people who live there and what they thought the treatment should be. So, that was, like, pretty much, y'know, exactly

what the course was about - about coming together. I mean, you don't have that situation very often, there aren't a lot of situations where people actually take the time or work together. (Ann, Land and Food Sciences)

Despite the interprofessional collaborative models exemplified in the clinical rotations, all of the participants said that collaboration among students in their classroom project work was not automatic, but rather the product of working together over the duration of the course and establishing relationships among team members.

...in our little groups, we needed to help one another... we needed to learn from one another...I would say that at the beginning we didn't have enough experience of, of bringing our professions together, but very quickly you realize that you need to learn from one another... you deliver this product at the end that is so much more aware than where you start... (Deborah, Nursing)

The fact that interprofessional collaboration was not an automatic process during classroom work may be attributable to different professional values, cultures and boundaries, as was described by all of the participants. Despite these acknowledged differences, this was not seen to be an absolute hindrance to interprofessional group work:

...in any group, you're going to have different people with different personalities. Everyone...reacts to things differently... we also looked at it from different areas, because it is, y'know, one person from each discipline, helping a person along [and] each person brings in their expertise, whether it's the doctor, the nurse, the social worker or [the] nutritionist. Each person is bringing in... their own expertise. (Ann, Land and Food Sciences)

As a means of fostering interprofessional collaboration in group work, all of the participants identified the need to gain clarity in the roles of different professions in providing patient care:

...it was really cool when we discussed [different issues in the group] - which parts people felt were their specialty... that really helped with teamwork. It also helped show where there might be overlaps. For example, I know the nursing student was very adamant that her job was to know all the side effects of drugs because she's the nurse and she's going to be monitoring them. Whereas I thought well... I think that's kind of the pharmacist's job, as well. So, it was interesting to kind of work out how to deal with those issues, I guess. (Betty, Pharmacy)

In addition to learning about what the different professions do, some of the participants identified the need to understand the professional culture and the language used by different professions:

...I had never worked in an environment like that... and as a social work student, I did not know the medical terminology... (Calista, Social Work)

...in pharmacy, we actually have courses where it's like "this is how you should talk to doctors" and they have very structured things they call SBAR. Like you have to have a structure to your communication so that they'll listen to them and everything. (Betty, Pharmacy)

The inter-relationships between the learner, interprofessional knowledge, professional practice and culture form an integral component in formulating an understanding of how and why interprofessional knowledge is integrated into practice (Daley, 2001). By allowing participants to reflect upon the knowledge generated through the interprofessional dialogue and different contexts of practice, participants gained some insight into the integration of interprofessional knowledge into practice is gained.

Impact of Interprofessional Learning on Professional Practice

All of the participants expressed a desire to practice in a manner consistent with the interprofessional model as demonstrated through the interprofessional course:

...I guess to me [interprofessional practice] just makes more sense... everyone has their different area of specialty, I guess, and to combine them it just makes more sense to me than having, say, doctors do everything... I just think it makes a lot more sense to utilize all these skills. (Betty, Pharmacy)

Like Betty, Deborah identified collaborative practice and shared decision-making as being a valuable product of interprofessional collaboration:

...it wasn't one person making a decision. Certainly, in the end you've got to have a collective agreement, you can't be all over the place, but I just thought that this is the way it should be. This is respectful. Not only is it respectful, but it gave a better care for the family, because it wasn't one person's opinion, narrow-minded, you were getting lots of opinions... (Deborah, Nursing)

Despite this sustained interest and appreciation of interprofessional care, only Deborah was able to identify a concrete change in their practice:

Say, for instance, even the roles of the social worker, if you write out a social work referral form and it goes somewhere and it goes to the social worker, and that's kind of it, you know? But then, after that course I thought "well, I know our roles cross over a bit" and often when we refer to the social worker, it's really issues of social problems a lot, or again when we have a fetal loss, fetal demise, the social worker is asked. So, I mean, as well as maybe filling out the form, then, I then pick up the phone and find out who's on call... I think prior to the courses, I was nervous, which is ridiculous of somebody old like me... But the course just really shows you an impact...How very important it is that we do cross-

over...one leaves off and one picks up. No one person can do everything for that family. (Deborah, Nursing)

Elise also acknowledged a value in utilizing the skills of other professions, but could not attribute it directly to the course:

...understanding what my colleagues do more and knowing that they have these bodies of knowledge that are really vast and that... they complement my practice. So, that was a big thing for me. And really relying on them. And referring clients, like not trying... to meet all of the needs of the clients when, say, when a pharmacist can do that. They can discuss pain medication or whatever with the client... When I went into the course, I was sort of making the shift from acute care to community, so I...can't really say that I was doing that before community because I wasn't in community. (Elise, Nursing)

Factors Facilitating or Interrupting Interprofessional Practice

Despite a strong personal inclination towards interprofessional practice, all of the participants identified significant challenges in implementing interprofessional care due to prevailing organizational cultures or entrenched ways of doing things:

I don't feel like I personally have been able to make any huge strides, because I am...so new at it, still, that I can't make any big impact here... They're used to their own ways and if it ain't broken, why fix it kind of thing. (Betty, Pharmacy)

Aside from entrenched ways of doing things, Deborah also made mention of the difficulties in personalities and in sharing responsibility for patient care:

...for me, who, being in healthcare for years, I haven't seen many examples of true teamwork or interdisciplinary work. I've seen fractures, I've seen arguments, I've seen keeping turf, I've seen petty jealousies, but I've really never, ever seen something work as well as it did there... (Deborah, Nursing)

These challenges were further reinforced by the fact that none of the participants described working in an interprofessional practice in the way that is modelled through the course or through the clinical rotations:

...I think it was good to shed a new perspective on the same issue from a different health discipline. Although, I did find that it was a bit...ideal in the sense that that was not reflected in my actual practice, because I think there were unique thinkers in this class whereas I don't know that necessarily that those unique thinkers are everywhere in the community.
(Elise, Nursing)

Beyond the fact that the course presented well-established interprofessional practice environments, the fact that the patients and clients that learners interacted with in the class often presented with complex illnesses that may not be typical of all practice settings:

...the way that we, I mean the way that we function in that class, I don't function like that at all with my colleagues. I function in, within a nursing unit and when I need another healthcare professional, I kind of send my referral off. But, there's no sit-down and talk about a whole group of clients... I wonder if, because HIV is so complicated... when you throw in the marginalization and addiction and all that kind of stuff, like I think maybe there's more room for interdisciplinary work, you know. But when it's kind of a straightforward case, you don't need so much attention.
(Elise, Nursing)

Despite the difficulties they faced in implementing their interprofessional knowledge, all of the participants emphasized the need for educational interventions to guide the implementation of interprofessional care in the work environment:

Get teachers and professors of different disciplines co-teaching in the class and catch people when they're young and learning because then they will not have the blinders when they go into the workforce. And if enough of those people are coming out, they will change it. They will change it. And

then hopefully get people returning to school doing these kinds of courses, then they take back into their workforce what they've learned. (Deborah, Nursing)

Beyond the widespread implementation of IPE, several participants described the need for interprofessional practice to be modelled and implemented not just by the workers or practitioners, but also by those in management positions:

...there's a lack of communication between services, and I don't think it's up to the workers to actually facilitate that. I think it's up to the leaders to do that. (Elise, Nursing)

It's not just the managers, it's the agency as a whole. And all of them need to work together...it is interesting just from a learning perspective to observe the dynamics. And this is a great opportunity...this is where managers can take the leadership - in paying close attention and just working with the people under their direction... (Calista, Social Work)

A further factor that was felt to be influential by most of the participants was a generational difference among workers. It was felt that this was a factor in determining the willingness of practitioners to adopt new models of practice:

I find usually the younger people are more receptive to working with a multidisciplinary team, whereas... mostly the older generation tend to like to do things their own way... (Betty, Pharmacy)

Deborah emphasized that although some older generations of practitioners may be less inclined towards a change in their practice, not all of them are resistant to change:

... sometimes people my age [have] gone beyond a point of ever taking anything fresh on and that's very sad. But that's their issue. I think if you go with an open mind and you're into education and improving yourself [IPE] is the way to go. (Deborah, Nursing)

From the content of the interviews, it is evident that the participants of this study still considered the concept of interprofessional care to be both relevant and important to the provision of patient care in complex illness. Given this, however, they felt largely unable to fully implement the interprofessional knowledge into their current practice, largely due to institutional or organizational practices or cultures that impeded this transfer. The fact that organizational, and not individual, factors appeared to be the largest inhibitor of interprofessional care points to the need for IPE to address not only individual-level collaboration, but also strategies for organizational cultural transformation.

Discussion

This exploration of students' experiences with interprofessional education is a continuation of the development of the interprofessional education paradigm, building upon previous works that have evaluated both this course (O'Neill & Wyness, 2005) and interprofessional education, in general (Oandasan & Reeves, 2005a; Oandasan & Reeves, 2005b).

The learning activities that allowed students to learn in an environment that closely resembled a realistic practice setting, such as PBL or clinical rotations, were the most highly regarded by the study participants. These learning activities provided the participants with an opportunity to gain insight into the professional cultures and practices of diverse groups of health and social care providers and allowed for the development of interprofessional problem solving opportunities. Many of the participants felt that these learning opportunities resembled an idealized practice environment designed for interprofessional care and were not truly representative of the realities of professional practice upon graduation. Despite this incongruence, many participants articulated value in observing or experiencing the dynamics among various care providers, patients and families in these settings.

All participants described this particular interprofessional course as being memorable and influential; many described it as being one of the best courses they had ever taken. Despite this, study participants faced significant constraints when applying the knowledge and practices gained through participation. Participants felt that these

difficulties were related to contrasting ideologies and organizational cultures of the workplaces within which they chose to establish their professional practice.

All of the participants interviewed stated an overwhelming support for the concept of interprofessional care and articulated a value in providing care in this manner. However, this ethos was often not shared by their colleagues, some of whom were described as unwilling to deviate from established ways of doing things. This was particularly noted to be true of older professionals who were further into their careers. In the absence of an organizational culture that both promoted and enabled an interprofessional model of care, similar to that demonstrated through PBL and clinical rotations, participants felt that they were unable to actualize the interprofessional knowledge gained through the course. Furthermore, it became apparent that it was necessary for organizational culture to be shaped or changed by someone with a leadership role within the organization and not exclusively by the workers themselves.

Further examination of the levels of culture is provided by Schein's (1992) analytical framework, in which he proposes that culture can be examined using 3 levels: artifacts – the visible products of a group such as the language, technologies used, emotional displays and other observable characteristics of a group; espoused values – the strategies or philosophies that underlie the group's decisions and may predict what people say, but may not necessarily be in line with what they do; and basic assumptions – the unconscious beliefs, perceptions, thoughts and feelings that are the ultimate source of values and action.

This framework closely parallels the goals of the interprofessional curricula that expose learners to an enriched, multiprofessional environment in which they learn not only about a specific health-related topic, but also about different care providers and the relationships necessary for effective interprofessional care. Fundamentally, Schein's (1992) framework points out the need to address a deeper level of culture related to transformative change, such as the deeply engrained and habituated assumptions and beliefs about professional practices, and health care more broadly.

Similar to meaning perspectives, as described by transformative learning theorists (J. Mezirow, 1990; Taylor, 2007), the cultural level of basic assumptions, as described by Schein, can be difficult to change and require learners to carefully examine, reflect and

critically appraise the justifications of their taken-for-granted beliefs. This cognitive architecture provides the basis for formulating the subsequent cultural levels, and by understanding one's own basic assumptions or meaning perspectives and by exploring those of other professions, further understanding is gained into the dynamics of relationships among learners and professionals from different professional backgrounds.

Though not explicitly identified as such, nor theoretically grounded in it, interprofessional education has a transformative learning theoretical underpinning that guides its implementation into curricula. Educators seek to transform the meaning perspectives of learners to provide a more comprehensive and holistic lens for viewing and understanding health, disease and the provision of health and social care (Hall, 2005). These changes in meaning perspectives provide a component of the foundation for the cultural transformation in health and social care advocated for by other authors. Although the results of this study indicate a commitment to the residual interprofessional knowledge gained through this course by learners, graduates faced significant challenges in implementing this knowledge in their professional practice.

The fact that learners were both committed to the notion of interprofessional collaborative practice and yet unable to fully implement it into their own practice or place of work is an indication of the challenges faced in the movement towards organizational cultural change by individuals. While this finding indicates a current lack of adaptability within the organization of health systems to an interprofessional model of care, it does not necessarily indicate a poor outcome of the educational processes involved. Rather, a more pragmatic approach would focus on augmenting the interprofessional curricula to be inclusive of not only interprofessional knowledge, but also mechanisms for enacting cultural change through the incorporation of interprofessional knowledge.

The results of this exploratory study indicate that graduates entering the workforce with a working knowledge of interprofessional collaboration face significant challenges in not only practicing as interprofessional practitioners, but serving as the change agents needed to shift the organizational cultural norms toward an interprofessional model of care. While the HIV/AIDS course provided the participants with an interprofessional knowledge base, these same participants lack the necessary skills or insight to integrate interprofessional care into their practice and enact

institutional change to influence the practice environment. While it appears learners were adaptive in altering their own meaning perspectives, these were micro-level changes that appear to have not yet influenced macro-level changes within their organizational cultures and their norms.

A workforce committed to interprofessional collaboration can only be as productive as the prevailing organizational culture permits (Bate, 2000). Thus, if an educational intervention such as interprofessional education is to be successful, it must be aligned closely with a practice environment that shares a common vision of patient care. Effectively, graduates of interprofessional education programs need work environments that recognize, support and foster this style of practice.

As educators continue to search for effective strategies in the provision of interprofessional education, implementation in practice settings may be one promising area to examine. The incorporation of knowledge integration and dissemination skills into interprofessional curricula appears necessary if new graduates are to be the ones who lead the cultural transformation within healthcare organizations. Without this, graduates enter into the practice setting in which an interprofessional workplace culture is virtually non-existent.

Conclusion

This study presents the experiences, both positive and negative, of a small group of learners who completed an interprofessional course in HIV/AIDS prevention and care. These experiences exemplify concerns in interprofessional education and care as new graduates shift from the classroom to the workplace.

For educators, the need to provide interprofessional education to a broader audience of students remains a challenge. Constraints imposed by diverse course schedules and differing professional curricula present significant barriers to widespread implementation of interprofessional education. Furthermore, as evidenced by this study, there exists a need to provide learners with not only interprofessional knowledge, but also the skills for implementing this knowledge in challenging environments, such as those with a strong traditional organizational culture.

A significant finding of this research is that despite the challenges the participants faced in implementing interprofessional collaboration into their own practice, they all

remained committed to the concept of interprofessionalism and viewed this as a superior means of providing patient care. Given that participants in this study had completed the course between four to six years prior to the interviews, we feel that their commitment to this style of practice, though not fully implemented, is a positive outcome of the interprofessional education course.

For healthcare policymakers, managers and institutional leaders, there is a need to provide recognition of the new knowledge surrounding interprofessional care that new graduates bring to the workplace. Furthermore, there is a need to align institutional and organizational cultures with the practices taught within the academic setting and to provide the opportunity for new graduates to use interprofessional knowledge when it is applicable in their place of work.

Until there are further changes that align academic and practice settings, a disconnect will continue to exist between the practice environment learners are being prepared for and the realities of professional practice. For now, the practice setting is failing to keep pace with educational institutions and graduates are left somewhere in between. Effectively, our new graduates are all dressed up with no place to go.

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CHAPTER THREE

Introduction

The results of this study provide some initial findings of the outcomes of interprofessional education, based on the experiences of five individuals. The findings are limited in their scope, due to the small sample size, but do provide a foundation upon which further investigations can develop. This chapter summarizes the results and explores both the methodological aspects and the future implications of the study.

Analysis of Manuscript Research

This exploratory descriptive study provides an organizing framework for the understanding how a group of learners integrated interprofessional knowledge into the practice setting. Building on a long history of interprofessional education research at the University of British Columbia (UBC) (O'Neill & Wyness, 2005; Szasz, 1969), this research contributes further insight into the efficacy of interprofessional education and the challenges of cultural transformation in the practice settings towards that of interprofessional collaborative patient care.

The College of Health Disciplines at UBC offers interprofessional education (IPE) electives for students in health and social services programs, and is committed to ongoing evaluations of the efficacy of and satisfaction with these courses. The course being used as a case study for this research project, HIV/AIDS Prevention and Care (IHHS 402), continues to be offered along with a series of other courses with similar goals. Despite differences among these courses in terms of length, teaching style and student composition, the research framework utilized for this study may prove a viable means of future evaluations of IPE at UBC.

Subsequent to the completion of this research project, a paper emphasizing the value of critical reflection in the context of transformative learning theory and IPE has emerged (Clark, 2009). This paper describes phenomena similar to transformative learning theory, critical reflection and IPE as discussed in the manuscript section of this thesis. Notably, Clark directs his research towards educators and advocates the need for a theoretical basis upon which to guide teaching in IPE. Two critical elements form the crux of his argument: (1) conflict is essential for reflection and experiential learning, and (2) reflection on not only the interactions with other professions and their approach to

clinical reasoning, but also on one's own self, profession, and experiences with the clinical world are necessary for achieving the desired educational outcomes of IPE.

The emphasis placed on reflection by Clark is not new to IPE and has often been implemented into IPE teaching strategies (Barr, Freeth, Hammick, Koppel, & Reeves, 2005; Oandasan & Reeves, 2005; Reeves, Goldman, & Oandasan, 2007). The novel aspect of this research is that Clark builds on his previous work on an IPE theoretical framework (Clark, 2006), and situates critical reflection within the context of transformative learning theory (Clark, 2009). This examination of critical reflection and transformative learning theory is contextualized by the more global teaching strategy using an experiential learning cycle. Clark describes experiential learning as a cycle, whereby learners participate in new experiences, reflect on these experiences and create and use concepts and theories derived from their observations to solve problems. This process of experiential learning and reflection is virtually analogous to that proposed by transformative learning theorists (Brookfield, 1990; Mezirow, 1990; Taylor, 2007).

The emergence of research seeking to advance the theoretical understanding of effective teaching in IPE highlights one of the issues raised by this research; the transformation of cultures of practice, however, remains another daunting challenge for educators, clinicians and policymakers. The challenges of interprofessional knowledge transfer (Zwarenstein & Reeves, 2006) and the transformation of sites of practice towards more interprofessionally-oriented settings have been discussed previously in the literature (McCallin, 2001). Despite the recognition of the need for cultural transformation in the practice setting and the apparent political will to enact this transformation (Herbert, 2005), the research conducted for this project indicates that practitioners are continuing to face challenges in integrating and applying interprofessional knowledge in the practice environment.

The underling assumption of much of the interprofessional education and collaboration research is that interprofessional collaboration is inherently a good thing for patients and practitioners, alike. Interestingly, much of the research surrounding interprofessional knowledge transfer focuses on the experiences of health professionals as they traverse the interprofessional continuum from education through to practice. This occurs despite the fact that arguments for integrated interprofessional care involves the

seamless continuity of care and an emphasis on enabling patients to navigate complex networks of care (Doll, Linden, Habra, Fillion, & Ellwood, 2007). While research into the application of interprofessional knowledge of communities of practice is important, an additional focus on how this affects patients and clients will be an important focus of subsequent research.

The implementation of IPE courses presupposes that students who complete these courses will graduate convinced of the merits of interprofessional collaboration and with an understanding of the requirements for effective interprofessional teamwork in the practice setting. Furthermore, there exists an assumption that reform within the educational sector will ultimately produce the necessary changes in the practice setting to foster such cultural change (Herbert, 2005). The research contained in this thesis has demonstrated that in the instance of the research participants, the former of these assumptions was accurate with participants describing favourable attitudes towards interprofessional collaboration, but the assumption that the course alumni would be successful in enacting widespread cultural transformation was not realized.

Although the research results do not reveal widespread dissemination of interprofessional collaboration in the practice setting, it does not necessarily point to a failure of IPE. This can be argued for a number of reasons: first, the number of alumni who have completed IPE courses is relatively small. IHHS 402 is offered once a year for approximately thirty students. While other IPE courses are offered through the CHD, the enrolment is comparable, if not smaller. When compared with the alumni group who have not completed an IPE course, the IPE alumni group is relatively small. Second, the IPE alumni are entering into a workforce that has, for the most part, not been educated through IPE styles of education and who, as this research indicates, may be part of a culture of practice that has not yet adopted an interprofessional approach to practice.

The general lack of integration of interprofessional knowledge into the practice setting by the participants in this study provides some insight into some potential areas for improvement in the IPE curricula. Notably, the fact that participants identified the prevailing organizational cultures in the practice setting as being a barrier to the integration of interprofessional knowledge points to the need for IPE courses to focus on strategies for knowledge transfer and cultural change.

Strengths and Weaknesses

The results of this study provide for consideration of the interprofessional continuum, from teaching through to knowledge utilization. The participants in this study consisted of a diverse group of professionals with differing areas of practice, expertise and experiences, all of whom described roughly similar experiences both throughout the course and upon entry into the practice environment. Despite the diversity among the distribution of professions represented, the results of this study are limited in their generality because of the relatively small sample size of five participants. While the research findings may not be largely generalisable across populations, they do point to important considerations in the planning and execution of IPE programs that build on this branch of IPE research (Gravel, Légaré, & Graham, 2006; Zwarenstein & Reeves, 2006).

Several participants noted that the class composition in IHHS 402 was atypical in the sense that students chose to enrol in the elective course out of a pre-existing interest in interprofessional education and/or collaboration. Given that these students chose to take the course and were not required to take it, it is conceivable that students enter into the course seeking a more holistic approach to health and social care. While not explicitly measured by this study, previous authors have described students' readiness for interprofessional education and have demonstrated favourable results (Hind et al., 2003). As such, it is not possible to say that the fact that this course was an elective course necessarily biased the results.

Beyond the extrapolation of the research findings to educational practice settings or the clinical environment, the research framework used in this study is founded in established, defensible qualitative methods (Thomas, 2006) and may prove useful for subsequent explorations of IPE. The research methodologies used in this project underwent several iterations, and followed standard research pathways of refining a research question, selecting an appropriate methodology and utilizing a structured, valid and theory-based means of analysis (Beckman & Cook, 2007).

Research Methodology

There exists no clear gold standard method for the evaluation of IPE in the context of knowledge translation to the practice setting (Carpenter & Dickinson, 2008). The use of a randomized-controlled trial (RCT) in this context is controversial and

difficult to implement, and as such few to no studies of this sort exist in publication (Reeves et al., 2008), leading to questions of the authenticity of the claims of the IPE movement. These questions of authenticity predominantly arise from the lack of published evidence eligible for inclusion in systematic reviews, notably inclusion in a Cochrane review. The level of evidence provided by systematic reviews is generally felt to be best evidence about the effectiveness of different interventions (Grimshaw et al., 2001), however these systematic reviews frequently exclude studies that utilize qualitative research methods (Dixon-Woods, Fitzpatrick, & Roberts, 2001). Thus, despite rigor in qualitative methodologies, there still exists a formidable challenge in gaining acceptability of the validity of the results among decision-makers.

Previous studies have utilized research methodology consisting of structured interviews (Zwarenstein & Reeves, 2006), focus groups (O'Neill & Wyness, 2005), validated scales and surveys (Pollard, Miers, & Gilchrist, 2004). Carpenter and Dickinson (2008) identify a number of measures used to assess outcomes in IPE, placing an emphasis on validated tools that measure specific metrics related to practice characteristics and learner satisfaction following IPE. Such quantitative tools may provide for the measurement of specific practice traits such as working as a part of a team, however in the absence of a RCT, it is difficult to draw inferences on the true impact of interprofessional training on professional practice.

For the purposes of this study, it was particularly important for the researchers to capture not only quantifiable measures of collaboration, but also the additional layers of meaning that are established more comprehensively through the use of qualitative methods; in particular, through the use of participant interviews. It was the assumption and the anticipation of the course faculty that students with a working knowledge of interprofessional practice would be able to actualize and implement this knowledge into their future professional practice. Working from this assumption, with the understanding that this may not be the case, the use of an informal interview guided by global research questions and aided by more specific interview questions was selected.

A qualitative research design provides for a considerably more detailed exploration of the IPE continuum and praxis, by allowing the researcher and participant to explore a broader discussion of issues of importance without the constraint imposed by

many quantitative methods. Furthermore, it is necessary to not only identify potential changes in the habits of mind and practice associated with IPE, but also to understand why such transformations may occur. For these reasons, a qualitative approach was utilized in this study. By allowing the interviewer and the participants to direct the conversation, there would be great depth to the data than if inquiry were restricted to a set script or measure.

The adoption of qualitative methods has been recognized as a valid research paradigm both within interprofessional education (Hammick, 2000) and healthcare, in general (Malterud, 2001; Yardley, 2000). While quantitative research methods may be more appropriate for assessing distribution and generality of variables in a given population (Yardley, 2000), this study sought to understand the experiences of individuals as they traversed the interprofessional continuum, for which qualitative methods are most applicable.

Implications for Future Research

This study holds several important implications for the future direction of IPE-related research both within the College of Health Disciplines and elsewhere. First, it presents research findings that highlight not only the successes of or favourable outlooks on IPE, but also the experiences of a group of individuals who sought to incorporate interprofessional care into their professional practice. The findings of this research suggest that there is considerable room for further implementation of interprofessional models not only in the education sector, but also in the practice environment.

The results of this study provide some basis for shaping future research directions in IPE-related research, particularly within the province of British Columbia, where all of the participants worked. Of greater significance is the methodology employed by this study, which could easily be applied to the other IPE courses administered by the College of Health Disciplines.

This study examined the experiences of only a small number of students who all completed the same interprofessional course, with relatively few changes made to the curriculum or faculty. Given that the College of Health Disciplines administers multiple courses, taught by different faculty and on a range of subjects, it is conceivable that different courses may yield different results or frame interprofessional collaboration

differently. Furthermore, the course topic focused on the human immunodeficiency virus (HIV) and the acquired immunodeficiency syndrome (AIDS), a subject that evokes an emotional response, particularly in the context that frames Vancouver's epidemic encounter with the disease. While this may not directly impact upon the way interprofessionalism is characterized, the lack of organization, coordination and general accessibility of health and social care services within the communities predominately affected by HIV/AIDS may alter students' perceptions towards the organization and delivery of care. Essentially, different courses with different topics and contexts may place alternate emphases on priorities in health and social care settings and may yield different results or attract a different kind of student.

A great deal of emphasis is placed on the nature of the IPE course and whether it is a required or elective course (Oandasan & Reeves, 2005). Engaging students who are required to take an IPE course as opposed to only those who elect to take one could reach a different group of students with different perspectives on patient care. As such, provided that future IPE initiatives involve more than a relatively small number of students in elective courses, this may provide further impetus for engaging and researching transformative learning theory in IPE.

Conclusion

This thesis has presented the findings of a preliminary investigation into the transfer of interprofessional knowledge from the classroom to the practice setting. While the results offer promising educational outcomes for learners, there is evidence that the practice environment has yet to adopt a similar philosophy of interprofessional collaboration that is gaining momentum among educators in the health professions. The fact that the participants in this study retained their fervor for interprofessional collaborative practice indicates that the educational initiatives may have been successful in highlighting the merits of collaborative practice. When considered in respect to the lack of opportunities for implementing models of collaborative practice such as those demonstrated during IHHS 402, it is evident that there remains a significant divide between the practice and education settings.

The impact of the research contained in this thesis is demonstrable not only because the results point to an interesting dilemma in the organization of health services

and policy, but also in the research methodology that was employed for gaining further insight into the experiences of professionals completing IPE courses and entering into the workforce. By adopting a qualitative approach, this study explored additional layers of meaning in the experiences of students entering the practice setting and moved beyond contemporary research paradigms that have generally employed quantitative approaches. By ensuring this research is accessible to future generations of researchers in interprofessional education, a more detailed understanding of how professionals traverse the continuum of interprofessional education and practice will emerge.

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Appendix A – BREB Certificate

<https://rise.ubc.ca/rise/Doc/0/QJO40SD7AAJKB9U95KEBVL...>



The University of British Columbia
Office of Research Services
Behavioural Research Ethics Board
Suite 102, 6190 Agronomy Road, Vancouver, B.C. V6T 1Z3

CERTIFICATE OF APPROVAL - MINIMAL RISK

PRINCIPAL INVESTIGATOR: Lesley Bainbridge	INSTITUTION / DEPARTMENT: UBC/Medicine, Faculty of/Physical Therapy	UBC BREB NUMBER: H08-00457
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:		
Institution		Site
N/A		N/A
Other locations where the research will be conducted: Interviews will be scheduled within Greater Vancouver at a location convenient and appropriate for the research subjects.		
CO-INVESTIGATOR(S):		
John P. Egan Daniel Pratt Jason Nickerson		
SPONSORING AGENCIES:		
Western Regional Training Centre for Health Services Research		
PROJECT TITLE:		
Does Learning Together Enable Working Together?: Pre-Licensure Interprofessional Education as a Determinant of Post-Licensure Interprofessional Collaboration		

CERTIFICATE EXPIRY DATE: January 12, 2010

DOCUMENTS INCLUDED IN THIS APPROVAL:	DATE APPROVED: January 12, 2009	
Document Name	Version	Date
Protocol:		
Research Proposal	N/A	November 27, 2008
Consent Forms:		
Consent Form	N/A	November 28, 2008
Questionnaire, Questionnaire Cover Letter, Tests:		
Interview Questions	N/A	November 25, 2008
Letter of Initial Contact:		
Recruitment Letter	N/A	November 28, 2008
Second Contact Letter Leslie Soon	N/A	November 28, 2008
Leslie Soon Initial Contact Letter	N/A	November 28, 2008
The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.		

**Approval is issued on behalf of the Behavioural Research Ethics Board
and signed electronically by one of the following:**

Dr. M. Judith Lynam, Chair
Dr. Ken Craig, Chair
Dr. Jim Rupert, Associate Chair
Dr. Laurie Ford, Associate Chair
Dr. Daniel Salhani, Associate Chair
Dr. Anita Ho, Associate Chair

Appendix B – Letter of Contact

THE UNIVERSITY OF BRITISH COLUMBIA



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Health Disciplines

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Tel: 604.822.5571 | Fax: 604.822.2495
www.health-disciplines.ubc.ca

November 28, 2008

Request for a brief interview

Dear _____ :

Introduction

As a former student of the course IHHS 402 – HIV/AIDS Prevention and Care who has indicated a willingness to participate in research conducted by the College of Health Disciplines, you are being contacted by the College of Health Disciplines at the University of British Columbia (UBC) to invite you to participate in a research project entitled:

Does Learning Together Enable Working Together?: Pre-Licensure Interprofessional Education as a Determinant of Post-Licensure Interprofessional Collaboration

This research project is being undertaken by Jason Nickerson, a Master's student in UBC's Department of Educational Studies. Please note that UBC has not provided your personal information to Mr. Nickerson. Should you be willing to participate in the research project outlined below, Jason Nickerson's contact information is provided at the end of this letter.

Outline of Research Project

The focus of this project is to understand the elements of student learning through interprofessional education (IPE) and the application of this learning to professional practice. To better understand this, interviews are being requested of students who have completed the UBC course IHHS 402- HIV/AIDS Prevention and Care.

As patients and clinicians navigate the healthcare delivery system, the need for collaboration among practitioners, patients and their families becomes evident. To address this need, a number of programs have emerged utilizing interprofessional education as a means of teaching students and professionals to become interprofessional practitioners. Despite changes in curriculum and course design to reflect this interprofessional model, little is known about what aspects of this style of learning are significant for students, how they apply learned concepts in their professional practice and what enables and inhibits their ability to apply these concepts. For this reason, this study seeks to address this gap and to gain insight into your experiences of the course, your practice environment and the transition between the two.

November 28, 2008

Page 1 of 2

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Data from the study will be used to better understand the experience of former students as they enter into professional practice following graduation and factors that aid or inhibit their ability to integrate interprofessional care into their practice.

If you are interested in participating in this study, please contact Jason Nickerson by e-mail at jwnicker@interchange.ubc.ca or by phone at 778-887-0574. Your response would be appreciated within the next 4 days. You are under no obligation to participate and may choose to discontinue your participation in the study at any time.

Should you have any questions (without divulging any information to the Researcher), please contact Tony Flavell, Curriculum Coordinator at UBC's College of Health Disciplines at: tflavell@interchange.ubc.ca or by phone at 604-822-7359.

Thank you,

Ms. Leslie Soon,
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The University of British Columbia
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